

⁸
--36. (Amended) The population of claim ¹12, wherein each core photoluminesces at a wavelength in the range of 435 to 800 nm.--

⁹
--37. (Amended) The population of claim ¹12 wherein each overcoating comprises ZnS.--

¹⁰
--38. (Amended) The population of claim ¹12 wherein each overcoating comprises ZnSe.--

¹¹
--39. (Amended) The population of claim ¹12 wherein each overcoating comprises CdSe.--

¹²
--40. (Amended) The population according to claim ¹12, wherein the FWHM is 45 nm or less.--

¹³
--41. (Amended) The population according to claim ¹²40, wherein the FWHM is 20 nm or less.--

¹⁴
--42. (Amended) The population according to claim ¹²40, wherein the FWHM is 15 nm or less.--

¹⁵
--43. (Amended) The population according to claim ¹12, wherein the plurality of cores has a size distribution having standard deviation no greater than 10% of a mean diameter of the population.--

¹⁶
--44. (Amended) The population according to claim ¹12, wherein the core is a member of a population having a size distribution with a standard deviation no greater than 5% of a mean diameter of the population.--

¹⁷
--45. (Amended) A population of nanocrystallites comprising a plurality of nanocrystallites, each nanocrystallite including:

a nanocrystalline core comprising MTe, wherein M is selected from the group consisting of Cd, Zn, Mg, and Hg, and

an overcoating of a semiconductor material on a surface of the core wherein the plurality of cores is monodisperse, and each core photoluminesces at a wavelength in the range of 435 to 800 nm.--

¹⁸
--46. (Amended) The population of claim ¹⁷45 wherein each core comprises CdTe.--

¹⁹
--47. (Amended) The population of claim ¹⁷45, wherein the plurality of cores has a size distribution having a standard deviation no greater than 10% of a mean diameter of the population.--

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²⁰
~~48~~ (Amended) The population of claim ¹⁷~~45~~, wherein the plurality of cores has a size distribution having a standard deviation no greater than 5% of a mean diameter of the population.--

²¹
~~49~~ (Amended) The population of claim ¹⁷~~45~~, wherein each overcoating comprises ZnS.--

²²
~~50~~ (Amended) The population of claim ¹⁷~~45~~, wherein each overcoating comprises ZnSe.--

²³
~~51~~ (Amended) The population of claim ¹⁷~~45~~, wherein each overcoating comprises

CdSe.--

²⁴
~~52~~ (Amended) The population of claim ¹⁷~~45~~, wherein each nanocrystallite photoluminesces with a quantum efficiency of at least 20%.--

²⁵
~~53~~ (Amended) The population of claim ¹⁷~~45~~, wherein each nanocrystallite photoluminesces with a quantum efficiency of at least 40%.--

²⁶
~~54~~ (Amended) The population of claim ¹⁷~~45~~, wherein each nanocrystallite photoluminesces with a quantum efficiency of at least 60%.--

²⁷
~~55~~ (Amended) A population of nanocrystallites comprising a plurality of nanocrystallites, each nanocrystallite including:

a nanocrystalline core comprising MTe, wherein M is selected from the group consisting of Cd, Zn, Mg, and Hg, and

an overcoating of a semiconductor material on a surface of the core, wherein the plurality of cores is monodisperse and each core photoluminesces with a full-width at half maximum (FWHM) of 70 nm or less.--

²⁸
~~56~~ (Amended) The population according to claim ²⁷~~55~~, wherein the FWHM is 45 nm or less.--

²⁹
~~57~~ (Amended) The population according to claim ²⁷~~55~~, wherein the FWHM is 20 nm or less.--

³⁰
~~58~~ (Amended) The population according to claim ²⁷~~55~~, wherein the FWHM is 15 nm or less.--

³¹
~~59~~ (Amended) The population of claim ²⁷~~55~~, wherein the plurality of cores has a size distribution having a standard deviation no greater than 10% of a mean diameter of the population.--

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Serial No. : 09/625,861
Filed : July 26, 2000
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32 ~~60~~. (Amended) The population of claim *27* ~~35~~, wherein the plurality of cores has a size distribution having a standard deviation no greater than 5% of a mean diameter of the population.--

33
33 ~~61~~. (Amended) The population of claim *27* ~~35~~, wherein the each nanocrystallite photoluminesces with a quantum efficiency of at least 20%.--

34
34 ~~62~~. (Amended) The population of claim *27* ~~35~~ wherein each core comprises CdTe.--

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